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Symbol	Name	Synonyms	Organism
GADD45B	growth arrest and DNA-damage-inducible, beta	DKFZP566B133, GADD45BETA, Growth arrest and DNA-damage-inducible protein GADD45 beta, MYD118, Myeloid differentiation primary response protein MyD118, Negative growth-regulatory protein MyD118	Homo sapiens

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UniProt	O75293, O75960, Q6IX74
IntAct	O75293
OMIM	604948
NCBI Gene	4616
NCBI RefSeq	NP_056490
NCBI RefSeq	NM_015675
NCBI UniGene	4616
NCBI Accession	AAM92794, O75293

Homologues of GADD45B ... new

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Gadd45 beta ☆ mediates the NF-kappa B suppression of JNK signalling by targeting MKK7/JNKK2.

Here, we identify MKK7/JNKK2--a specific and essential activator of JNK--as a target of **Gadd45 beta** ☆, and in fact, of NF-kappa B itself.

Gadd45 beta ☆ binds to MKK7 directly and blocks its catalytic activity, thereby providing a molecular link between the NF-kappa B and JNK pathways.

Histochemistry study and real-time PCR further confirmed that **GADD45beta** ☆ staining in HCC was significantly decreased when compared to surrounding non-neoplastic liver tissue.

GADD45beta ☆ regulates cell growth, differentiation, and cell death following cellular exposure to diverse stimuli, including DNA damage and transforming growth factor-beta (TGFbeta).

These findings identify **Gadd45 beta** ☆ as a critical mediator of the prosurvival response to CD40 stimulation and provide important new insights into the apoptotic mechanism that is triggered by Fas in B cells.

In the presence of **Gadd45 beta** ☆, the Fas-induced apoptotic cascade is halted at mitochondria.

Furthermore, **GADD45beta** ☆ and p21(cip/waf) messenger RNA were induced in the absence of protein synthesis, indicating that both genes were immediate target genes for TSA.

In contrast, Northern blot hybridizations and analyses of poly(A) tails revealed no evidence of degradation of **GADD45beta** RNA.

Sequence and expression of a cDNA encoding MyD118 [?] ☆: a novel myeloid differentiation primary response gene induced by multiple cytokines.

Detectable levels of MyD118 [?] ☆ RNA were observed in myeloid precursor enriched

Concept & Implementation
by Robert Hoffmann

murine bone marrow, but not in several other nonmyeloid murine tissues.

For example, why does **Gadd45b** prevent apoptotic cell death in response to tumor necrosis factor alpha, whereas it favors apoptosis after transforming growth factor beta (E. De Smaele et al.). Other questions concern the understanding of the cross-talk mechanisms between different stress and apoptotic pathways and how the strength and the position and timing of a signal may affect different pathways.

Here, we report that, in B cells, **Gadd45 beta** is induced by CD40 through a mechanism that requires NF-kappa B and that this induction suppresses Fas-mediated killing.

Overall, surrounding non-neoplastic liver tissue was highly positive for **GADD45beta** compared to adjacent neoplastic liver tissues ($P < 0.01$).

Finally, we assessed the function of **GADD45beta** within the TGFbeta response and found that GADD45beta-deficient cells arrested in G2 following TGFbeta treatment.

Here we showed that in the SW620 human colon cancer cell line, TSA and butyrate induced the growth arrest and DNA damage gene 45alpha (GADD45alpha) and **GADD45beta**.

In this study, we describe the growth arrest DNA damage-inducible gene 45beta (**GADD45beta**), whose expression was significantly down-regulated in the hepatocellular carcinoma (HCC) microarray study and confirmed by Northern blot analysis.

The results suggested that expression of **GADD45beta** was decreased in human liver cancer cell lines HepG2 and Hep3B, but not in normal human embryonic liver cell line CL-48 or normal liver tissue.

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☐	L1	JNK pathway	2498
☐	L2	L1 and (apoptosis or "cell death")	1977
☐	L3	L2 and (regulat$ or modulat$ or upregulate or downregulate)	1953
☐	L4	L3 and peptide and (mimic or mimetic)	1190
☐	L5	@py<=2001	29664547
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☐	L8	2003007262 or 20050267022 or 2005026920	11
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☐	L9	2003007262 or 20050267022 or 20050265920	2
☐	L10	20030077262 or 20050267022 or 20050265970	3
☐	L11	5866332	7
☐	L12	6492122.pn.	1
☐	L13	peptide	152227
☐	L14	peptide or polypeptide or peptides	170497
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☐	L15	L14 and L3 and L5 and gadd45	4
☐	L16	L14 and L3 and L5	125
☐	L17	L16 and myd118	1

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